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# THE AFTERMATH OF TERRORISM

ROBIN H. GURWITCH, KAREN A. SITTERLE,
BRUCE H. YOUNG, AND BETTY PFEFFERBAUM

The insidious reality of terrorism is that that anyone, anytime, anywhere can be a target. No one is immune; no one is safe. Terrorism is a vicious and violent strategy intended to kill innocent people and designed to intimidate and control a group or a nation by the threat of random murder. The traumatic impact of terrorism is greatly magnified because it is of human design. The intention of terrorists is to demoralize their targets, to undermine a community's sense of security, and to violate the belief that one's self, loved ones, and others are safe from harm. Victims are chosen precisely because they are helpless and defenseless; for this reason, children are often the targets of terrorist attacks.

Terrorism is an extreme form of trauma. All victims of violence may develop an acute sense of personal vulnerability and live in distressful expectation of harm; however, the extreme magnitude of violence involved in terrorist acts may undermine the cornerstones of possible recovery environments (e.g., home and family, peer group and school, and community). Moreover, terrorism's effects extends far beyond its direct victims to include secondary (e.g., helpers) and tertiary victims (e.g., relatives and next of kin). Increased media coverage, shared values, and identification with the victim also can extend victimization to an entire community or a nation. The unique

and frightful characteristics of terrorism require special consideration because they necessarily inform and shape services provided by helping professionals in the aftermath.

Until recently, Americans perceived terrorism as something that happened in faraway places. Over the past decade, however, American lives have been greatly affected by events such as the bombings of Pan Am Flight 103, the World Trade Center, two American embassies in Africa, and the Alfred P. Murrah Federal Building in Oklahoma City. The September 11, 2001, terrorist attacks that destroyed the World Trade Center towers, damaged the Pentagon, and caused a plane crash in Pennsylvania forever changed America's perception of invulnerability. In all the events, children were either killed or seriously injured or had a parent who was either killed or seriously injured; many more were at risk for injury.

This chapter examines issues related to helping children cope with the effects of terrorist violence. We begin with a review of the emerging literature reporting the effects of exposure to terrorism. Next we summarize our work involving the impact on children of the Oklahoma City bombing. This discussion is followed by a review of recent intervention efforts, the challenges in implementing such programs, and the recommendations regarding future intervention program development. Last, because the reality of terrorism in America is a relatively new phenomenon and terrorist actions toward Americans are increasing, implications for public policy are addressed.

## THE EFFECTS OF TERRORIST ACTS OF VIOLENCE ON CHILDREN: LITERATURE REVIEW

Discussion of terrorism in this chapter is confined to intentional acts of violence designed to intimidate or coerce others for political or social objectives and in which the impact on children is the focus. The literature reveals a continuum of violent activities that are classified as acts of terrorism. Terrorism ranges from isolated violent acts in peaceful countries (e.g., the Oklahoma City bombing) to serial terrorist acts in countries locked in political strife (e.g., bombings, kidnappings, and hostage-taking situations in Israel). The research also covers various methods used by terrorists. Some terrorists strike from afar with bombs, remaining hidden. Other terrorists use direct, face-to-face confrontations to attack civilians and take hostages. Moreover, unlike conventional war, political terrorism may be long term and random and often involves schools, homes, and neighborhoods (Swenson & Klingman, 1993). Consequently, children frequently are subjected to terrorist actions, leading to a state of "continuous traumatic stress syndrome" (Straker & the Sanctuaries Team, 1987). It remains to be investigated how this state will apply to children in the aftermath of recent terrorist events, the ongoing issues of alert, threats of invisible agent attacks, and the war on terrorism.

Most of the research with children has been conducted in response to situations in which a society is constantly exposed to violence, making terrorism a more common occurrence. The early literature, which is largely anecdotal or involves clinical case studies, was conducted in response to the frequent terrorist attacks on the Israeli civilian population, particularly during the 1970s and 1980s (Ayalon, 1982, 1983a,b, 1993; Fields, 1982). Those studies, as a body of work, indicate that children who are exposed to terrorism are deeply affected by that experience. However, structured assessments of posttraumatic stress (PTS) or posttraumatic stress disorder (PTSD) are not present in much of this early work because PTSD did not become a formal diagnostic entity until 1980 (American Psychiatric Association, 1980). Measures available for use with children also were not available to researchers at the time of the early studies.

Ayalon (1993) summarized the effects of 15 terrorist attacks occurring in the years 1974 to 1980, many of which involved kidnapping and face-to-face killing of Israeli civilians in the years. The attacks varied in duration (ranging from a few moments to a number of days) and in the number of people who were killed (which ranged from 1 to 38). In some cases, the victims were murdered at the onset of the attack. In others, they were held as hostages until their liberation by force through a military operation. Victims ranged in age from infants to adults and in kinship. In certain cases, attacks were directed toward an entire family, and in others the victims were captured in the company of peers, friends, or strangers. Many of the children were wounded, and almost all were eyewitness to murder. Ayalon's studies documented how children exposed to terror through terrorist attacks suffer symptoms indicative of what we now term *posttraumatic stress reactions* as well as other psychological difficulties, including depression, anxiety, and long-term psychological effects and disturbances in development.

Work in recent years has focused on psychological disturbances associated with PTSD using structured assessments with well-established criteria. Studies vary tremendously as to the methods used to assess PTS; no two studies use the same methodology. Across the studies, rates of PTSD in children exposed to terrorist events range from 28% to 50%. Similar to the Ayalon studies (Ayalon, 1983a,b), several reports also have documented other psychological difficulties, including depression, anxiety, and disturbances in behavior and development (Elbedour, Baker, Shalhoub-Kevorkian, Irwin, & Belmaker, 1999; Trappler & Friedman, 1996). The findings are fairly consistent across diverse political and ethnic groups.

## Risk Factors Associated With Obvious PTSD in Children

### *Physical Injury or Witnessing Death and Physical Injury*

High rates of PTS have been found in studies in which exposure includes physical injury or witnessing death and physical injury of others.

Desivilya, Gal, and Ayalon (1996) interviewed adolescent survivors of the Ma'alot terrorist attack in 1974 in Israel. This incident involved 120 high school children who were seized and taken hostage by armed Palestinian guerillas. The seizure lasted 16 hours; 22 of the children were killed, and many were wounded, some severely. The results indicated that survivors who had sustained severe injuries revealed poorer long-term adjustment and more distress than their counterparts who were not wounded or had mild injuries.

Trappler and Friedman (1996) examined the effects of a politically motivated terrorist shooting incident in New York, where a gunman specifically targeted a Hasidic group of male adolescents. One student was killed, another was critically injured, and many shots were fired. Highly significant differences were found between survivors and a comparison group of students attending the same school but who were not present at the shooting. Survivors suffered from moderate depression, severe anxiety, and moderate-to-severe PTS symptoms. The investigators found that 28% of the survivors were diagnosed with PTSD as well as concurrent major depression.

*Degree of Exposure*

Almqvist and Brandell-Forsberg (1997) specifically investigated whether the degree of traumatic exposure to terrorist-type actions is related to the prevalence of PTSD. In their study of Iranian preschool children, parents were asked to describe their children's exposure to different events, which ranged from severe direct exposure to war (i.e., violence) to indirect exposure to war (e.g., through television or hearsay). Almqvist and Brandell-Forsberg found that the degree of traumatic exposure was strongly related to the prevalence of PTSD. Children who were eyewitness to assaults on parents or were within approximately 55 yards of bomb explosions developed PTSD much more frequently than children who did not see violent acts, although they were exposed to air-raid bombardments in their neighborhoods. Most children were with one or both of their parents when they were exposed to severe traumatic events. The study's authors suggest that children with severe exposure to organized violence are at even greater risk for developing PTS symptomatology when their parents have been similarly exposed, because effective parenting is potentially compromised. Concerns of safety because of genocide actions were also predictive of PTS symptoms in Rwandan children (Dyregrov, Gupta, Gjestan, & Mukanohelli, 2000). With the thousands of children and adults directly impacted by the attacks of September 11, 2001, the relationship between exposure and symptom development needs closer examination.

*Relationship to the Victim*

Another critical factor placing children at risk is the child's relationship with the victim. Children appear to be most affected by incidents that involve people who are close to them (Pynoos & Eth, 1985). The highest rates of

PTSD have been found in studies in which children have lost a parent. Elbedour and colleagues (1999) found that more than one third (34.4%) of the children whose fathers were massacred while praying in a Muslim mosque met the criteria for PTSD on the Clinician-Administered PTSD Scale (Blake et al., 1990). Girls (50%) displayed greater PTSD symptomatology than boys (23.1%). Depression was also a significant feature among all subjects.

Similarly, evidence indicates that witnessing the death or injury of a close friend is particularly traumatic (Ayalon, 1993; Trappler & Friedman, 1996). In the previously mentioned study by Trappler and Friedman (1996), high school students who witnessed the shooting death of one classmate and the critical injury of another exhibited high rates of PTSD (28%), which were unremitting 1 year later. The violent death of a loved one appears to be particularly difficult, placing children at risk for significant symptoms associated with both trauma and loss. Again, with the magnitude of lives lost (many of them parents) in recent terrorist attacks against the United States, the risk of an extraordinary number of children developing PTSD must be addressed.

*Parental Reactions and Distress*

The literature on disaster and young children emphasizes the impact of parental involvement in mediating stress reactions. Two reviews (American Academy of Child and Adolescent Psychiatry [AACAP], 1998; Cohen, Berliner, & Mannarino, 2000) point out that numerous studies have documented a relationship between children's PTSD symptoms and family support and parental emotional reaction to the trauma. Specifically, across a variety of disasters, family support mitigates the development of PTSD in children. Conversely, the presence of parental distress about the traumatic event and the presence of parental psychiatric disorders predicted higher levels of PTSD in children (Cohen et al., 2000). How well parents and caregivers cope with a traumatic event has been described as the best predictor of how children will cope (Lyons, 1987).

## The Long-Term Effects on Children of Exposure to Terrorism

The long-term effects of terrorism include high rates of unremitting PTSD in children (Almqvist & Brandell-Forsberg, 1997; Ayalon, 1993; Desivilya, Gal, & Ayalon, 1996; Elbedour et al., 1999; Trappler & Friedman, 1996). Almqvist and Brandell-Forsberg (1997) reported that preschool children who were initially diagnosed with PTSD (1 year postevent) continued to exhibit PTSD at follow-up (3.5 years postevent). Children who did not initially meet PTSD criteria tended to show a decrease in their psychological symptoms with time, although 2.5 years later more than 80% still showed some behavioral disorders (e.g., aggressiveness, generalized fear, irritability, peer problems, sleep disturbance, misbehavior, and restlessness). Similarly,

in the Trappler and Friedman (1996) study, follow-up data (10 months postevent) indicated that adolescent survivors with other diagnoses (e.g., depression, anxiety, or adjustment disorder without PTSD) appeared to be recovering, whereas adolescents diagnosed with PTSD continued to show symptoms and functional impairment despite additional individual psychological treatment. The "long arm" of extreme victimization also was documented by Desivilya et al. (1996), who investigated survivors exposed to terrorism as children 17 years after the event. Their findings indicated that the effects of a traumatic face-to-face encounter with terrorism that involved mass casualties were quite pervasive and long lasting. Most survivors experienced some form of traumatic stress symptoms even 17 years after the terrorist assault.

In summary, the findings suggest that once a child develops PTSD, the psychological difficulties are likely to be severe, to follow a chronic course, and to be difficult to resolve even with treatment. Children who do not develop PTSD, however, are also at risk and may develop other significant behavioral and developmental difficulties (Ayalon, 1982; Cohen, Berliner, & March, 2000; Macksoud, Dyregrov & Raundalen, 1993; March, 1999). Political terrorism has other far-reaching, long-term effects on the psychosocial development of children (Macksoud et al., 1993). The constant unpredictability of political violence and acts of terrorism can alter children's sense of security, inhibit their ability to enjoy life in general, increase catastrophic expectations of the future, and destroy their ability to trust themselves and others (Ayalon, 1982; Lyons, 1987; Melville & Lykes, 1992).

## TERRORIST BOMBING IN OKLAHOMA CITY

Many of the findings on the effects of terrorism on children are similar to findings of the effect of violence in general on children (Osofsky, 1997). The conclusions about terrorism, until recently, primarily involved investigations of children who frequently were exposed to violence in their surroundings. The bombing in Oklahoma City brought about one of the first investigations of how terrorism affects children who live in a country relatively free from large-scale, single-incident acts of violence. Until the destruction of the World Trade Center and the attack on the Pentagon on September 11, 2001, the bombing of the Murrah Federal Building in Oklahoma City on April 19, 1995, was the largest act of terrorism on American soil. Insights and lessons learned form this event may lead to a better understanding of the impact of terrorism on children. The Murrah Federal Building was nine stories high with a daycare center located on the second floor. The blast not only destroyed the federal building but also damaged 800 buildings and businesses in the area surrounding the explosion, including the adjacent YMCA, which also housed a day care facility. Miles from "ground

zero," people reported shaking of buildings and hearing the blast. Within 1 mile of the site, glass breakage in buildings was evident (Oklahoma State Department of Health [OSDH], 1996; Sitterle & Gurwitch, 1999). The statistics related to this terrorist action were shattering. One hundred and sixty-eight people lost their lives, including 19 children. The blast left 30 children orphaned; 219 other children lost one parent. Area hospitals treated 442 people, 83 of whom required admission. Private physicians treated an additional 233 people. Among the injured were approximately 50 children from the adjacent YMCA day care facility. Because of the damage, 562 people were left homeless, and congregations in surrounding churches had to find new places to worship (OSDH, 1996).

With this unprecedented event came extensive media coverage. Cameras and crews were at the site, in the area, at the hospitals, and in the air within moments of the blast. The city and, indeed, the nation became riveted to the images of the aftermath of a terrorist incident that heretofore had been unimaginable. In Oklahoma City, coverage on television and in the press was fairly continuous for several weeks.

The immediate response to the bombing lasted 17 days. This large-scale response involved multiple agencies from local, state, and federal levels and involved thousands of law enforcement, fire department, emergency, and medical service personnel. An extensive mental health response was provided to the victims, their families, the rescue workers, and the community (American Psychological Association, 1997; Sitterle, 1995; Sitterle & Gurwitch, 1999). Here we summarize the findings from several of our research investigations examining children's responses to the bombing. The studies, taken together, examine the effects of the event on three different groups of children: (a) young children from the day care center adjacent to the bomb site; (b) elementary, middle, and high school children from the Oklahoma City Public Schools; and (c) middle school children living 100 miles away from the bomb site.

## A Study of Preschool Children at the Bomb Site

Approximately 6 months after the terrorist bombing, Gurwitch and colleagues (Gurwitch, Pfefferbaum, & Leftwich, in press) evaluated 11 children ages 2 to 6 from the YMCA day care center adjacent to the bomb site and their mothers. No one in the day care center died or suffered serious or life-threatening injuries from the bombing; however, most sustained multiple cuts and bruises from the falling debris and glass. The children were exposed to chaos and constant media attention while they were evacuated from the destroyed building and in the aftermath of the event. Each mother completed a battery of questionnaires including the Structured Clinical Interview for *DSM–IV* (First, Spitzer, Gibbon, & Williams, 1997), which was also adapted for parental report of children's reactions; an unstructured play

observation was conducted with each child. Although mothers endorsed many symptoms of PTSD, they reported few in their children. However, members of the mental health team and center staff observed signs of traumatic stress including posttraumatic play, increased startle responses, and sleep problems (Gurwitch et al., in press). These observations support other findings that parents underestimate their children's reactions (Almqvist & Brandell-Forsberg, 1997).

The objective findings were supported by informal assessments of infants, children, and families from the YMCA day care facility who were relocated to another center in Oklahoma City. A team of mental health providers headed by Robin Gurwitch collected qualitative data in the first 6 months following the bombing. Information was obtained from individual and group debriefings, educational and crisis intervention sessions with parents, and day care staff, and several debriefing sessions held with the children. Observations of the children were compared with staff reports and parent interviews about the children's behaviors.

Based on these informal assessments, infants and young children did display many PTS symptoms. Reactions noted in the young children included reexperiencing the event, as evidenced by extensive posttraumatic play and peer discussions of the bombing. Hyperarousal and an increased startle response were reported and observed in both infants and preschool children. Behaviors identified as disturbances in functioning included problems with sleep, increased irritability, and regressive behaviors, such as a return to the pacifier or bottle. The behavior changes were noted in children across the age range. The preschool children did not appear to avoid activities or people that served as reminders of the bombing but, instead, seemed to embrace opportunities to interact with the staff and first responders and play games that were reminiscent of the event. Restricted range of affect and a sense of a foreshortened future were relatively absent in reports from caregivers and professional observations of the children (Gurwitch & Pfefferbaum, 1999; Gurwitch et al., in press; Gurwitch, Tassey, Sitterle, & Pfefferbaum, 1998).

Informal feedback was obtained from staff and parents after debriefing and educational sessions. They reported that the information about normal reactions to trauma helped reduce their stress and noted that their concerns related to behavior changes seen in the children also diminished after discussing concerns with team members. Finally, they reported increased confidence in their abilities to address the children's behaviors and concerns (Gurwitch et al., in press).

In summary, formal and qualitative data from the infant and preschool sample mirrors findings in young children reported after other types of trauma, including natural disasters and shootings (cf. Gurwitch, Sullivan, & Long, 1998; Vogel & Vernberg, 1993). The observed increased startle response also supports Perry's (1997) findings of changes in the startle response following an intense trauma.

## Responses of School-Age Children and Adolescents Following the Bombing

Concerns about the level of exposure to the bombing and potential clinical problems in Oklahoma youth, both locally and in the surrounding areas, prompted our research team to perform a clinical needs assessment. The studies reported here form part of a larger assessment designed to identify school-age children who were at risk and in need of treatment. Here we report the results from middle and high school children at 7 weeks after the blast and elementary school children at 8 to 10 months after the bombing. The clinical needs assessment procedure was generally the same for both groups of participants and is outlined below.

### *Clinical Needs Assessment Procedure*

The Clinical Needs Assessment instrument consisted of 56 items and, in consultation with Robert Pynoos, was designed specifically for the Oklahoma City bombing study. Variables included direct exposure through physical proximity to the blast (physical exposure), as measured by two items asking participants if they heard or felt the explosion. Indirect exposure through bomb-related television viewing (television exposure) was assessed by a single-item: "How much bomb-related TV did you watch?" Personal loss and consequences (emotional exposure) examined the child's relationship to people who were killed or injured. Other items targeted difficulty handling the demands of home and school and whether the children had sought counseling.

A 12-item measure was used to assess retrospective reports of initial arousal and fear. This measure was adapted from scales developed for this use by Freedy, Kilpatrick, and Resnick (1993) and Wang, Pynoos, James, and Wang (1994). The measure of PTS was adapted from the Impact of Event Scale-Revised (IES-R; Weiss & Marmar, 1997). The IES-R consists of 22 items representing the three PTSD symptom clusters. It includes items measuring intrusion and avoidance from the Impact of Event Scale (Horowitz, Winler, & Alvarez, 1979) and items assessing arousal added by Weiss and Marmar (1997). Participants were asked to rate the frequency of occurrence of 22 symptoms in "the past seven days" on a scale with four response options: *not at all*, *rarely*, *sometimes*, and *often*. The PTS symptom score was a summation of all items on this scale.

### *Middle and High School Students*

Seven weeks after the terrorist bombing, approximately 3,200 middle and high school students completed the clinical needs assessment. The students were largely minority youths, and although all socioeconomic levels were represented, students from lower socioeconomic status families predominated. Girls (56.5%) outnumbered boys (43.5%), and lower grade students predominated—more than 78% of the children attended grades 6 to 8.

Results revealed that more than 60% of the students heard and felt the explosion, a finding that was not surprising given the proximity of the schools to the bomb site. The impact of indirect exposure (as a result of viewing bomb-related events and images on television) also was extensive. Two thirds (66.6%) of the students reported that "most" or "all" of their television viewing was bomb related (Pfefferbaum, Nixon, Krug, et al., 1999; Pfefferbaum et al, 2000).

A large number of children in our sample reported emotional exposure by knowing someone injured or killed in the blast. More than one third of the students reported knowing someone killed, and more than 40% of the children reported knowing someone injured. Within the bereaved group of children, 49 students reported that an immediate family member (e.g., parent or sibling) was killed, and 81 children said that a family member had been injured. Interestingly, 330 students reported attending at least one bomb-related funeral; of this group, 107 attended more than one funeral (Pfefferbaum, Nixon, Krug, et al., 1999). The results are consistent with a random-digit dial telephone survey of adults residing in Oklahoma City in which more than one third reported knowing someone killed or injured in the blast (Smith, Christiansen, Vincent, & Hann, 1999) and thus underscore the communitywide nature of this terrorist event (Sitterle & Gurwitch, 1999).

To further examine the effects of traumatic loss, three groups of children experiencing loss across a spectrum of relationships were compared: children who lost (a) an immediate family member (either a parent or sibling); (b) a relative outside the immediate family; or (c) a friend or acquaintance. The three groups of bereaved children were compared with peers who did not know anyone killed (i.e., *nonbereaved* peers). Comparisons of the bereaved groups with the nonbereaved groups are included in the discussion that follows (Pfefferbaum, Nixon, Tucker, et al., 1999).

Seven weeks after the bombing, 62.8% of the total sample reported that they still worried about themselves or their families and 14.7% of the children reported that they still did not feel safe "at all." Comparison of the bereaved and nonbereaved children revealed that more than 33% of those who lost an immediate family member reported not feeling safe at all, whereas only 11.9% of those who lost no one reported a similar response. When asked about current worries about self or family, 75% of those who lost a parent or sibling and 73.8% of those who lost another relative reported some level of worry. In contrast, 40% of those reporting no loss reported no worry. Bereaved children also were significantly more likely than nonbereaved children to report that the bombing changed life at home and school. When groups were compared, those reporting the loss of an immediate family member were more likely than other bereaved groups to "strongly agree" with statements reflecting changes at home and school.

Significant gender differences were found in the total sample; girls reported higher levels of PTS symptoms than did boys. PTS symptoms were

examined in relation to exposure as a result of personal loss (i.e., knowing someone killed or injured). Predictably, students who reported that their parents or siblings were killed or injured exhibited more symptoms of PTS than their counterparts. An unexpected finding, however, was that children reporting a sibling killed or injured endorsed the greatest number of PTS symptoms, followed next by those reporting a parent killed or injured. Similarly, children reporting a sibling injured had significantly higher PTS symptoms than all other groups.

One of the findings in our work has been the influence of bomb-related television exposure on PTS symptomatology. Most of the children in the sample reported that in the aftermath of the bombing, "most" or "all" of their television viewing was bomb related, and television exposure correlated with PTS symptoms at 7 weeks. The impact of media exposure was further examined by studying youth with no physical or interpersonal exposure. Those who reported high levels of television exposure were more symptomatic at 7 weeks than those with less television exposure (Pfefferbaum et al., 2001).

In our sample, the retrospective report of arousal at the time of the blast was highly predictive of the total PTS symptoms and symptom cluster scores at 7 weeks. In addition, in our sample, the retrospective report of symptoms associated with arousal at the time of the blast was highly predictive of levels of PTS symptoms and symptom cluster scores at 7 weeks. Of note, television exposure was shown to be a stronger predictor of PTS for the full middle school sample than either physical or emotional exposure (Pfefferbaum et al., 2001).

Counseling services were available in the public schools and in city and state agencies (Pfefferbaum, Call, & Sconzo, 1999). These were available to students identified by parents, school personnel, or the students themselves as needing mental health services in the aftermath of the bombing. Only 6.8% of the total sample reported that they had had contact with a counselor or clergy for mental health support. When examined by loss, approximately 40% of the students who lost an immediate family member, 15% of those who lost another relative, and 8% of those who lost a friend or acquaintance had been seen by a counselor (Pfefferbaum, Nixon, Krug, et al., 1999).

*Elementary School Students*

Approximately 1,150 elementary school children (grades 3–5) in the Oklahoma City Public School system completed the clinical needs assessment 8 to 10 months after the bombing (Cote, Leftwich, Gurwitch, & Pfefferbaum, 1999; Gurwitch & Pfefferbaum, 1999). The sample had approximately equivalent numbers of boys and girls and equivalent grade distribution. Race also reflected the school system demographics— most of the children were African American.

Nearly one fourth of the children reported that a family member or relative was killed or injured, and almost 30% of children reported knowing

a friend or acquaintance who was killed or injured in the blast. As expected, the closer the relationship a child had with someone killed or injured by the bombing (i.e., higher level of interpersonal exposure), the greater the PTS symptoms endorsed on the IES-R. Girls tended to have higher IES-R scores than did boys (Gurwitch, Leftwich, Pfefferbaum, & Pynoos, 2000).

Close to 1 year after the bombing, nearly 5% of the elementary school children reported that they were experiencing clinically significant levels of PTS as a result of the bombing. Nearly one third of the children continued to be concerned about family members, and one fifth had trouble calming down after a bombing reminder. Similar to the data collected from the middle and high school students 7 weeks after the bombing, the students reporting all or most of their television viewing to have been bomb related had significantly higher PTS symptoms than students reporting little to no bombing-related television. At the time of the survey, media attention had turned to the criminal proceedings. Much of this television coverage revolved around the trial and provided frequent images of the original blast, those wounded and killed, and the destruction of the building. Almost two thirds of the children reported distress surrounding their feelings toward the perpetrator(s) of the event. Unfortunately, 8 to 10 months after the bombing, although less than one third of the children reported contact with a counselor to discuss the bombing, many children reported continuing distress (Gurwitch & Pfefferbaum, 1999).

*Middle School Students 100 Miles From the Bombing*

Two years after the terrorist action, Pfefferbaum and colleagues (2000) investigated the impact of the Oklahoma City bombing on middle school students residing in a community 100 miles from Oklahoma City. The children had no direct physical or interpersonal exposure, but approximately one third of children reported having a friend who knew someone killed or injured in the incident. Media exposure and, to a lesser extent, indirect interpersonal exposure were significant predictors of PTS symptomatology. Two years after the event, almost 20% of the sample reported current bomb-related symptoms that impaired their functioning at home or school.

## Discussion of Findings and Clinical Implications

In summary, the results of our research on children's responses to the bombing in Oklahoma City indicate that the ripple effect of terrorism affects literally thousands of innocent children. These children experienced emotional reactions and may be at risk for long-term difficulties. Large numbers of children reported high rates of PTS symptoms, and more than one third of the total sample (i.e., more than 1,000 children) reported knowing someone killed in the explosion. Our finding that the degree of exposure, here defined as knowing someone killed or injured, is an important risk factor in the de-

velopment of PTS symptoms after trauma. It is consistent with other studies of children and disaster (e.g., Pynoos et al., 1987).

Many children in our sample may have been both traumatized and bereaved. The violent death of a loved one appears to be particularly difficult in that trauma and grief reactions may interact. Pynoos and colleagues (Pynoos & Nader, 1988; Pynoos, Steinberg, & Goenjian, 1996; Pynoos, Zisook, & Foy, 1995) noted that a significant problem in the child trauma literature has been a failure to differentiate between PTS symptoms and symptoms of grief and their interaction resulting in traumatic bereavement. In their studies involving children exposed to violence and loss (both of which are risk factors in terrorism), Pynoos (1992) and Goenjian (Goenjian et al., 1997) found evidence of PTS symptoms, grief reactions, complicated grief, and bereavement-related depression. Those authors have described how PTS complicates the grieving process and interferes with children's efforts to address the loss and adapt to subsequent life changes. It is important to evaluate the interaction of trauma and grief in future research on terrorism because they have significant treatment implications (Gurwitch & Kees, in press).

Futhermore, initial experience (e.g., arousal) with the bombing was predictive of symptoms almost 2 months later. Although the preschool children did not show evidence of avoidance, those symptoms were strongly endorsed by children in the elementary school grades, suggesting a developmental progression of PTS symptoms (Gurwitch et al., 2000). Indeed, many researchers (e.g., Green et al., 1991; Terr, 1985) see age and developmental level as two factors to be considered in working with children after a trauma. For example, an adolescent's understanding of death following terrorist actions will likely be different from a preschool child's understanding of the same event.

Gender differences, as seen in the data collected from Oklahoma City, also have been supported in the literature (Garrison et al., 1995; Green et al., 1991; Shannon, Lonigan, Finch, & Taylor, 1994), but that finding is not consistent (Blom, 1986; Nader, Pynoos, Fairbanks, Al-Ajeel, & Al-Asfour, 1993; Shaw et al., 1995). It is possible that the type of trauma or disaster experienced may affect gender differences. Another possibility may be that girls are more likely to internalize symptoms associated with PTS, whereas boys show more of an externalized expression, which is not addressed by the current PTSD criteria. Additional controlled research is needed to explain discrepant findings.

Across all ages, the role of television exposure also appeared to be a significant risk factor in the development of PTS symptoms (Gurwitch & Pfefferbaum, 1999; Pfefferbaum et al., 2001). Television has become an essential tool for learning about events in our world. As children increase their exposure to world events through this medium, it seems critical for researchers to empirically examine the issue of how children are affected by graphic media coverage of traumatic events. Our research indicates that media and

television coverage can be an important secondary source of exposure to trauma. Children who were not directly exposed to the bombing, either by physical proximity or by having a parent, sibling, relative, or friend injured or killed, but who endorsed extensive television viewing of the bombing also endorsed a greater number of PTS symptoms than those with less viewing. It is as though, through the media, children experience vicarious exposure that may be as significant a traumatic stressor as direct experience. This idea parallels much of the emerging literature on the traumatic impact on children of witnessing violence (Osofsky, 1997; Pynoos, 1992). It may be that being a passive observer in a community victimized by terrorism, even by viewing it on television, affects young children and places them at risk for the development of significant levels of PTS.

The findings related to television viewing of children in a distant Oklahoma community may in part be explained by a classification scheme for trauma-related conditions not associated with direct threat that has been proposed by Terr and colleagues (1999). They described a range of perceptual and interpersonal involvement in children following the *Challenger* disaster. Perceptual involvement may occur through direct witnessing, media coverage, and hearing about an incident. Interpersonal involvement may range from a direct personal relationship with a victim to various indirect relationships. Images and reports surrounding the attacks of September 11 riveted the nation and the world, and the coverage continues. As it made a difference in children's reactions after Oklahoma City, it is imperative that the effects of the reporting on September 11 and related ongoing actions be investigated. Questions for future research may involve not only the quantity of the viewing of the trauma but the quality. For example, a potential moderating factor, such as discussing the images and information with adults, may temper the negative impact of this type of exposure on children's PTS reactions.

Clearly, our research indicates that our understanding of who constitutes the victims of communitywide acts of violence, such as terrorism, needs to be broadened. Our findings suggest that the circle of impact is far greater than might initially be expected and point to the strong need for professionals to actively screen *all* children within an affected community, not just the children who have been directly and personally affected. Since September 11, 2001, anecdotal accounts of children's distress have been reported from across the country. It is important to be proactive in identifying such children, rather than wait for them to come to the attention of concerned parents or school personnel, who may themselves be similarly affected.

Terrorism is of human design and criminal in nature. The data from the Oklahoma City schoolchildren indicated that their feelings toward the perpetrators of the trauma were distressing. After the attacks in New York City, Robin Gurwitch talked with children from the affected area and the children shared incidents of hate talk toward classmates of Middle Eastern descent.

We recommend that future examinations of children's responses to terrorism include an assessment of feelings related to the perpetrators as well as their faith in the criminal justice system. Perhaps assessments of PTS symptoms at times surrounding criminal proceedings are warranted, because such proceedings may serve as significant reminders and television is likely to convey many images and stories surrounding the terrorist actions. Ongoing monitoring of peer interactions and hate talk is also recommended.

The universal screening revealed a large percentage of children endorsing PTS symptoms who never had contact with mental health personnel. The data underscore the difficulties of relying on parents and school personnel alone to accurately identify all children at risk after a trauma. The lack of identification and, therefore, lack of intervention may place children at increased risk for development of PTS symptoms and related difficulties in the future.

## U.S. EMBASSY BOMBINGS IN EAST AFRICA

Shortly after the terrorist bombing in Oklahoma City, two other terrorist events involving U.S. embassies in East Africa occurred (Nairobi, Kenya, and Dar es Salaam, Tanzania). The events exposed U.S. vulnerability to international terrorism abroad. In Nairobi, more than 200 people were killed and more than 5,000 were injured. The casualties, for the most part, spared children from direct physical exposure. Far fewer people were killed or injured in the nearly simultaneous explosion in Dar es Salaam, but the Embassy was totally destroyed.

"Operation Recovery" was established to respond to the mental health needs in Nairobi. This effort was swift and benefited from consultation with mental health disaster response specialists from around the world, including experts from Oklahoma City (Betty Pfefferbaum). Operation Recovery provided crisis and support services, outreach, and public education. The U.S. Agency for International Development later established a similar effort through the Kenya Red Cross Society and the International Federation of the Red Cross and Red Crescent Societies. Children were seen in school settings as well as treatment facilities throughout the community.

Preliminary analysis of a sample of almost 300 children surveyed within 1 year of the Nairobi bombing revealed high levels of interpersonal exposure associated with increased bomb-related PTS symptomatology, similar to the findings of the children in Oklahoma City. In contrast to Oklahoma City, however, danger is a way of life in Nairobi. Natural disasters, crime, and political violence are common. In addition, PTS symptoms associated with a prior traumatic event were an important predictor in the development of bomb-related PTS symptomatology in the Nairobi school sample (B. Pfefferbaum & C. North, personal communication, November, 2000).

Clearly, the potential exists for serious long-term psychological sequelae for children exposed to terrorism. A review of the current literature suggests that the natural course of PTSD in children is not uniform (AACAP, 1998). Although symptoms may remit in many children, symptoms may persist for significant periods of time in a substantial proportion of others. Identifying the critical risk factors that may predict how a child reacts to traumatic stressors and what impact intervention efforts may have on long-term outcome is, therefore, essential to furthering our work with children and trauma. No studies have measured the efficacy of interventions following terrorist acts of violence; the methodological challenge of measuring the efficacy of such multivariate programs is formidable (Cohen et al., 2000). Thus, systematic interventions with children following terrorist events are guided more by clinical principles and related findings than by treatment outcome studies.

## Intervention Model for Children Affected by Violent Acts of Terrorism

Effective mental health interventions following catastrophic events, including violent acts of terrorism, should be theoretically and empirically informed, developmentally appropriate, and shaped by survivor's needs (AACAP, 1998; Cohen et al., 2000; Pynoos, Steinberg, & Wraith, 1995). Moreover, interventions need to match the temporal phases of the traumatic event. The essential components in response to communitywide acts of terrorism should include (a) early community-based intervention; (b) clinical needs assessment to identify children at risk; (c) multimodel, trauma-loss-focused treatment programs; and (d) program evaluation of treatment efficacy.

### *Early Community-Based Intervention*

Interventions during the initial aftermath, when the needs of survivors are primarily related to safety and physical health, are necessarily pragmatic in nature and different from interventions when life threat and physical hardship are not imminent. During the immediate aftermath of a terrorist event, children not only need to be in a safe environment, they also need to *feel* safe and to know the whereabouts and the safety of parents, siblings, and other loved ones. They need adequate food, rest, and sleep. Correspondingly, mental health interventions at this phase may be understood as "psychological first aid" (Pynoos & Nader, 1988; Young, 1998).

The objectives of psychological first aid include the establishment of safety (both objective and subjective), stress-related symptom reduction, restoration of rest and sleep, and connection to social support and caregivers (e.g., family, clergy, primary care physicians, teachers, and protectors, such as police; Pynoos & Nader, 1988; Young, 1998). For example, a psychologi-

cal first aid program was developed as a crisis intervention program for children; it expands the critical incident stress debriefing (CISD) model (Mitchell, 1983) to include two to three sessions (Pynoos & Nader, 1988). This program emphasizes clarifying the facts about the traumatic event, normalizing children's PTS reactions, encouraging expression of feelings, and teaching problem-solving techniques. Other adaptations of this debriefing model may include the use of art and other media to facilitate the child's expression of feelings. An essential component is screening children for significant psychological difficulties and referral for intensive and ongoing treatment.

Children who are most in need of psychological first aid include those who exhibit extreme anxiety, dissociative symptoms (i.e., experience of the world as dreamlike, detachment, derealization, and depersonalization), uncontrollable intense grief, inability to sleep or eat, or extreme cognitive impairment (e.g., confusion, poor concentration, and impaired decision making). In general, all children survivors will benefit from some degree of psychological first aid.

Young, Ford, Ruzek, Friedman, and Gusman (1998) suggested ways of helping survivors in the immediate aftermath of a disaster that are applicable to children. They include six central principles: (a) ensuring children's basic survival and comfort resources (e.g., food, shelter, and clothing); (b) ensuring basic personal space (e.g., privacy, quiet, and space for personal effects); (c) addressing physical health problems or concerns; (d) reassuring safety and the whereabouts and status of loved ones and friends; (e) reconnecting children with loved ones, friends, and trusted other persons; and (f) helping children and families take practical steps to resolve instrumental problems caused by the terrorist event.

In the weeks following the terrorist event, mental health interventions may still be pragmatic in that they help children and families take practical steps to resume ordinary day-to-day life; that is, normal family, student, community, and work roles. During this time, other forms of early intervention may be appropriate, including formal clinical assessment, one-to-one counseling, and brief treatment.

In the aftermath of traumatic events, the most commonly used early clinical intervention is debriefing. Several models of debriefing have been described (e.g., Armstrong, O'Callahan, & Marmar, 1991; Dyregrov, 1989; Raphael, 1986; Young, 1998), although CISD (Mitchell, 1983) is the best known and most widely delivered model. The current practice of routinely providing debriefing to children exposed to community disaster and violence, however, deserves further examination (Cohen et al., 2000; Foa, 2001; Gurwitch, 2001). For one, serious questions have been raised about the efficacy of psychological debriefing with adults. Randomized trials have failed to demonstrate that debriefing prevents subsequent PTSD, and evidence indicates that it sometimes has iatrogenic impact on adults (Bisson, 1997; Rose, Brewin, Andrews, & Kirk, 1999). It is possible that too much information

about harmful trauma consequences or the reliving aspect of some approaches to debriefing actually sensitizes recipients instead of alleviating distress.

Second, because of the severity of traumatic exposure associated with terrorism, it is even less likely that either short-term crisis intervention or debriefing procedures will be powerful enough mediators to mitigate stress reactions.

Even if debriefing does not prove effective in the prevention of PTS, it is possible that debriefing methods may achieve other important outcomes if used in the context of a comprehensive intervention program. Participant ratings of perceived helpfulness are consistently high across studies, although such ratings are uncorrelated with levels of PTS symptoms and other psychological distress (Carr, Lewin, Webster, & Kenardy, 1997). Debriefings also can help provide education, identify children at risk, and determine those in need of in-depth evaluation or treatment.

*Communitywide Screening of Children At Risk*

Several studies have found that parents and teachers tend to minimize children's trauma-related reactions (Almqvist & Brandell-Forsberg, 1997; Handford et al., 1986). Parents and teachers may misunderstand the impact of the trauma in their desire to reassure themselves that children are not harmed in any way or to relieve vicarious distress over the child's experience. Parents and caregivers may misinterpret reactions such as ongoing discussions of the event or posttraumatic play as signs of effectively processing the trauma. If adults are experiencing distress about a trauma, such as the recent terrorist attacks in the U.S., they may not be able to recognize similar distress in their children. If children sense distress in the significant adults in their lives, they may minimize reactions in hopes of not further upsetting their caregivers or teachers. Finally, many salient PTS symptoms may not be readily observable, such as emotional constriction, withdrawal, or dissociation. We believe sufficient evidence supports the use of universal screening of children to identify those at risk following a terrorist event. Systematic community-based screening of children is most easily conducted in settings such as schools (public and private), neighborhood centers, or primary care settings. The screening information then can be used to identify children at risk, determine children in need of trauma-related services, guide outreach efforts, and plan specialized treatment programs tailored to the unique needs of the children, their families, and the community. Moreover, the screening data can provide pretreatment baseline data for evaluating a treatment program's effectiveness.

The consensus on the most effective means of assessing children following trauma continues to be debated (AACAP, 1998; Cohen et al., 2000). Many self-report and structured interviews for assessing children are available and can be used to systematically screen children and identify those in need of treatment. Although a review of trauma assessment instruments for

children are beyond the scope of this chapter, they are available in literature (AACAP, 1998; Carlson, 1997; March, 1999; see also chapter 2, this volume). A second issue in the assessment of PTS in children is related to current diagnostic criteria. No consensus exists about the "typical" presentation of PTSD in young children (Cohen, 1998). Unfortunately, the diagnostic construct of PTSD, as currently defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (American Psychiatric Association, 1994) fails to take into account some important developmental considerations. Young children who are experiencing acute or chronic stress reactions may present relatively few PTSD symptoms because nearly half of the diagnostic symptoms require verbal descriptions of the experience and internal states that exceed a young child's cognitive and language skills (Scheeringa, Zeanah, Drell, & Larrieu, 1995). This requirement may account for why children are likely to have symptoms but rarely receive a diagnosis of PTSD following a traumatic event (Cohen et al., 2000; Gurwitch et al., 2000).

The UCLA Trauma Psychiatry Program has developed a systematic screening procedure that is currently being used in the Pasadena, California, schools with adolescents exposed to community violence and traumatic loss (Saltzman, Pynoos, Layne, Steinberg, & Aisenberg, 1999). This screening, which is one component of a school-based trauma- and grief-focused psychotherapy program, has been adapted from the programs used following the Armenian earthquake (Goenjian et al., 1997) with adolescent victims of community violence, and in postwar Bosnia (Layne, Pynoos, & Cardenas, 2001). The purpose of the schoolwide screening is to identify students who have experienced significant trauma or loss and exhibit symptoms of PTSD, depression, and complicated grief. The screening, which is administered in a group format, is a self-report instrument and includes measures of exposure, PTSD symptoms, depressive symptoms, and normal and complicated grief reactions. In addition, various indices are used to assess school performance, including grade point average, number of classes failed, number of suspensions, and teacher reports of behavioral difficulties. As this screening evolves, it may be useful to add indices related to change in participation in extracurricular activities and interactions with peers. Furthermore, since children may be anxious or depressed following trauma, screenings should also incorporate these issues (Cohen, Berliner, & March, 2000; March, 1999).

Students endorsing significant exposure to violence or traumatic loss or who evidence significant PTSD, depression, or complicated grief symptoms during the screening process are then triaged for further assessment on an individual basis. This clinical evaluation involves a semistructured assessment to obtain a detailed understanding of the child's traumatic exposure, endorsed symptoms, and level of impairment across settings. Furthermore, the interview is used to identify major psychiatric disorders and substance abuse, suicidality, homicidality, and issues requiring intervention outside of the treatment program.

## Challenges and Obstacles in Screening Children

Access to victims, especially children, in the aftermath of traumatic events can be particularly difficult. Protective boundaries often form around survivors (Lindy & Grace, 1986; Young, 1990), making both access to victims and recruitment into studies difficult, especially when either involve children. When trauma is a terrorist action, the boundaries between systemic methods to assess the impact and the victims may be even more impenetrable. For example, following the Oklahoma City bombing, efforts were made to screen all children in the Oklahoma City public school system. Although the superintendent was supportive of this need, ultimate decisions were left to local school principals and individual classroom teachers. Several refused to participate, stating with assurance that all children at risk had already been identified by school personnel and school services. Given our findings that most of the Oklahoma City Public School children assessed showed PTS symptoms and that less than one third of elementary school students had been in contact with a mental health professional, it is believed that many children in need of services were never identified (Gurwitch & Pfefferbaum, 1999). Some children also may minimize their reactions in an effort to protect their parents and other adults from knowing how badly the trauma has affected them (AACAP, 1998; Cohen et al., 2000; Yule & Williams, 1990). It is therefore critical to educate and enlist the support of those involved in leadership and decision-making positions within the setting in which the screening is to be conducted as well as the support of the child's parents and caregivers. The challenges to a universal screening may be especially daunting in the face of the September 11, 2001, tragedy. With thousands of children being directly impacted and thousands potentially indirectly affected, it is imperative that we overcome barriers that may hinder identification of children in need of services.

### *Community-Based Trauma and Loss Programs*

Communitywide interventions are necessarily complex and require multimodal programs with extended community involvement because the effects of traumatization extend into many domains of a child's life, such as family, school, peers, and health. As the literature and our research indicate, terrorist attacks create extreme stress reactions in children and therefore require a level of family, community, and professional support that far exceeds crisis intervention models alone.

Despite the lack of treatment outcome studies with children exposed to terrorist acts of violence, the empirical evidence and clinical consensus support the use of "trauma-focused interventions" in the treatment of PTSD in children (Berliner, 1997; Cohen, 1998; Cohen et al., 2000, Cohen & Mannarino, 1996; Deblinger, Lippman, & Steer, 1996; Frederick, 1996; Goenjian et al., 1997). The current state of knowledge indicates that the

essential components of trauma-specific treatment should include psychoeducation about trauma, anxiety management, and cognitive coping skills; exposure (i.e., directly addressing the trauma); correcting the child's inaccurate and maladaptive attributions; and a parallel treatment for parents and caregivers.

One program that incorporates all of those components is the UCLA School-Based Trauma/Grief-Focused Psychotherapy Program developed by Pynoos, Saltzman, and colleagues (Saltzman et al., 1999), outlined previously. Early outcome data for this program is promising; participants show reduction in symptoms and improved academic performance and school behavior (Saltzman et al., 1999). This program has recently been refined for use with traumatically bereaved children in New York City (Layne, Saltzman, & Pynoos, 2001; Pynoos, personal communication, November, 2001).

*Rescue! An Emergency Handbook* (Ayalon, 1978) is a manualized program for educators and mental health professionals to use specifically to support children in the aftermath of a terrorist attack or following a "near miss." The program has been accepted by the Israeli Ministry of Education for widespread use throughout the education system in Israel and was used extensively in the northern border areas. It includes a wide variety of tools that are oriented to the development of coping skills in emotionally expressive, cognitive, and behavioral areas by means of work in groups, bibliotherapy, creative expression through writing and play, simulated situations, drama, and guided-imagination exercises that are suitable for all age groups. Ayalon (1993) stresses that such crisis intervention strategies should be initiated immediately, should be provided on-site, and should use a community intervention approach. No treatment outcome data on the handbook is currently in the literature.

Following the bombing in Oklahoma City, Gurwitch and Messenbaugh (2001) developed a manualized treatment program for use following communitywide traumatic events, including acts of terrorist violence. The program, *Healing After Trauma Skills* (HATS), benefited from the work of La Greca, Vernberg, Silverman, Vogel, and Prinstein (1994) following Hurricane Andrew and of Storm, McDermott, and Finlayson (1994) after the Australian bushfires. HATS, which is primarily for children ages 5 to 12, incorporates educational material on basic safety skills in the face of disasters, psychoeducation, and treatment exercises to address symptoms and behavioral difficulties associated with trauma and loss. This systematic program is conducted by mental health professionals or school personnel and relies on a group format, although it may be used individually. Other key components include active involvement and participation of parents and caregivers. Perhaps one of the most important features of the HATS manual is the inclusion of the child's parents or guardians. These home-based exercises are included because they can have a significant impact on the child's adjustment. Although HATS is based on theoretical and empirical findings

related to children and trauma and disaster, well-designed research studies are needed to determine the program's effectiveness.

Immediately after the terrorist attacks of September 11, 2001, the American Red Cross developed classroom materials to help children cope. The materials are grade-specific exercises that can be easily incorporated into the school curricula (American Red Cross, 2001). La Greca, Sevin, and Sevin (2001) also developed a manual for parents to use with their children to address the events and aftermath of the terrorist actions. Evaluation of these materials will be important.

In summary, the literature on treatment interventions following violent acts of terrorism is sparse. Assessments, interventions, and manuals to aid in working with victims of terrorist events are being developed, but work is needed to determine the efficacy of those approaches. A few currently being implemented and evaluated are showing success (Goenjian et al., 1997; Layne, Pynoos, et al., 2001; Murphy, Pynoos, & James, 1997; Saltzman et al., 1999). Drawing on these established programs may serve as an important first step in developing effective interventions with children impacted by communitywide terrorist events.

## Public Policy Implications

The magnitude and severity of emotional difficulties that follow terrorist incidents require specialized multimodal clinical interventions that are responsive to children's needs at different temporal phases following the traumatic event. It is critical that mental health public policies be similarly developed and match the phases of survivors and their families' needs during the long course of recovery.

Typically, a crisis intervention model has been advocated by federal agencies following large-scale community events, including terrorist events (Meyers, 1994). Such a model was used following the Oklahoma City bombing (Pfefferbaum, Call, & Sconzo, 1999) as well as following the events of September 11, 2001 (e.g., Project Liberty and Project Phoenix). Until recently, the federal laws designed to provide funding for the long-term emotional needs of victim groups exposed to large-scale violent acts or traumatic loss have been inadequate (American Psychological Association, 1997). Moreover, the intervention model supported by those grants was a brief crisis intervention model that depends largely on paraprofessionals and mental health professionals with little training in disaster, trauma, or grief counseling. Unfortunately, both qualitative and quantitative data appearing in the literature indicate that the needs of people affected by a terrorist event, particularly children, are long lasting and are unlikely to be mitigated by a crisis intervention approach alone (Almqvist & Brandell-Forsberg, 1997; Trappler & Friedman, 1996). In the aftermath of community violence, many factors may inadvertently contribute to the underestimation of those in need. For

example, empirical findings indicate that parents and teachers tend to underestimate or minimize the extent and severity of children's emotional reactions following traumatic events. We therefore support the recommendation of several experts (AACAP, 1998; March, Amaya-Jackson, Murry, & Schulte, 1998; Saltzman et al., 1999) for needs assessment screening to be conducted (i.e., in schools and primary care settings) following violent acts such as a terrorist incident. We recognize that communitywide implementation of this recommendation would require policy decisions at multiple levels, including state and local school boards, as well as the federal agencies that control the funds for these endeavors. But, as Cohen, Berliner, and March (2000) note, it makes no sense to identify children at risk and then not have effective services available.

In the wake of recent events, mental health services are evolving. Monies are currently available through federal agencies, foundations, and charities to help children impacted by the September 11, 2001 attacks. Unfortunately, these services may not reach all children in need. Certainly, because of the potential impact of media coverage on the development of PTSD symptoms in children, assessment and intervention services need to be further expanded. Federal agencies, such as the Federal Emergency Management Agency and the Center for Mental Health Services, may need to reevaluate the availability and the distribution of monies following communitywide acts of violence like terrorism. In summary, we suggest that terrorist events be treated as a separate category. Funds for mental health needs may wax and wane after an event. For example, funding for initial screenings and the development of specialized interventions may be high, then reduced following the interventions. Funds for mental health services may need to be reactivated later to help victims cope with the reminders, anniversaries, and new issues raised by the judicial phase of the terrorist action, and the ongoing war on terrorism. Therefore, funding should be targeted to the needs of survivors and families throughout their recovery.

Currently, people providing intervention services to high-risk children may not have sufficient training to provide for their needs. Children may have depression, anxiety disorders, and bereavement issues. The lack of experience and training to recognize significant problems may be one reason so few children were referred for mental health services beyond minimal crisis counseling following the Oklahoma City bombing. We recommend that standards for mental health providers be established for people working with children following a terrorist incident. A triage system may be useful for professionals. For example, licensed professionals with high levels of training may supervise and guide the screening and assessment; planning, design, and implementation of specialized treatment interventions; and program evaluation. Licensed professionals with debriefing training and experience could aid in the initial crisis and early intervention efforts. School personnel and other counselors could be trained to provide brief manualized interventions in the

schools; on-going assessment to determine continued need for services would be conducted. Finally, licensed professionals with expertise in traumatic loss and complicated bereavement could provide services for children needing intensive treatment.

## CONCLUSIONS

In conclusion, given the levels of terrorism around the world and their impact on Americans here and abroad, provision of effective mental health assistance to the children directly touched by such events is an urgent public health need. The young, innocent victims of this extreme form of trauma suffer high rates of PTSD with comorbid symptoms of depression and long-term behavioral and developmental disturbances. Moreover, our research on the Oklahoma City bombing indicates that the ripple effect of terrorism extends far into the community and can affect large numbers of children, who are often the indirect, hidden victims. This is the likely case in the face of the recent terrorist attacks against the United States. As stated previously, we believe that the growing body of clinical work and research underscores the need for a systematic public mental health approach using comprehensive screening, specialized trauma and traumatic bereavement grief-focused interventions, and multimodal outcome evaluations. Only in this way will we make significant strides in our understanding of how terrorism affects its youngest victims.

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